Annual Report
1978

Imperial Oil Limited

File

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Financial and operating highlights

	1978	1977
Financial	*millions of dollars*	
Earnings	**314**	293
Dividends	**124**	116
Shareholders' equity	**2,086**	1,896
Revenues	**5,737**	5,041
Capital and exploration expenditures	**535**	412
Taxes charged against income	**638**	629
	dollars	
Per share		
Earnings	**2.41**	2.25
Dividends	**.95**	.888
	percentages	
Earnings as a percentage of		
Average shareholders' equity	**15.8**	16.2
Average capital employed	**11.4**	11.7

Cover
Exploration rig working near Rocky Mountain House, Alta., discovered gas in November.

The Imperial refinery at Dartmouth, N.S. A $40-million project to treat effluent waters is in progress here and at Montreal, for completion in 1980. Inset are Bruce Weaver, working on the development of a new lube-extraction process at the Sarnia laboratory that will use less energy; Claude Robert and Serge Therrien, insulating pipes at the Montreal refinery to help conserve energy; and Johanne Fauteux, a technician testing the quality of Montreal refinery's water discharge, using trout fingerlings.

Contents

Operating	**1978**	1977
	thousands of barrels per day	
Production of crude oil and natural-gas liquids:		
Gross	**231**	230
Net	**147**	148
Crude oil processed	**435**	425
Sales:		
Petroleum products	**449**	433
	millions of cubic feet per day	
Natural gas	**345**	363
	thousands of metric tons per year	
Chemicals	**1,980**	1,917
*Gross proved reserves:	*millions of barrels*	
Conventional and synthetic crude oil and natural-gas liquids	**1,366**	1,038
	billions of cubic feet	
Natural gas	**2,166**	2,200

*The 1978 figure for oil includes, for the first time, the company's share of the permit capacity of the Syncrude project. The reserves figures do not include crude oil or natural gas discovered in the Mackenzie Delta or the Arctic islands, nor the heavy, viscous oil at Cold Lake and other such deposits.

Message from the president

Nineteen seventy-eight was a landmark year in the history of Imperial Oil.

As reported in the company's financial results, there was a marked increase in earnings during the year and this was accompanied by a record level of investment in exploring for and developing natural resources. Imperial's policy of reinvesting a substantial portion of its annual earnings has seen its investment in natural-resource development grow nearly ninefold over the past 10 years and current trends indicate continuing growth in both earnings and investment.

During the year, there were indications of growing public understanding of the need for Canada to find and produce new sources of domestic energy and of an increasing awareness of the major economic benefits that can flow from the prudent development of its natural resources. In general, the climate for energy development in this country, as reflected in current federal and provincial legislation, is more encouraging than it has been for some time.

Imperial is well placed to participate in such development and to contribute to the achievement of Canada's national energy goals in a manner that will also serve the interests of its shareholders.

We have been successful in assembling a diversified portfolio of natural resources that is second to none. In conventional hydrocarbon exploration and development, additional land holdings during the past year in western Canada complemented our already strong position in the Arctic and the eastern offshore. Overall exploration drilling results were very encouraging and more than met our expectations.

In the development of heavy oil, the role of our new subsidiary, Esso Resources Canada Limited, as the major participant in Syncrude, has already provided us with a strong base. Approval of the Cold Lake project, combined with our active development of conventional heavy oil, would give the company a commanding position in the production of this increasingly valuable energy source.

To this wide spectrum of oil and gas resources can be added our search for uranium, which has already met with notable success, our plans to produce major coal reserves, and our active program of exploring for and mining various base metals.

To develop these natural resources in the most efficient manner requires a corresponding strength in human resources, in organizational structure, in technological expertise, and in sound financial capability.

Imperial is fortunate in possessing impressive strength in each of these areas. As the record shows, our employees are highly skilled and motivated and are supported by a wealth of company technology and research. Our organizational structure has the quality, flexibility, and depth to allow us to deploy our technical competence and our human and financial resources to maximum advantage. And our financial resources are sufficient to permit us to take advantage of any new business opportunities. Given a suitable fiscal climate, we could invest up to $10 billion in capital projects by 1990.

Our strength in each of these areas during the past year allowed Imperial to turn in a performance that, in the light of the prevailing economic conditions, can be regarded as very gratifying.

In petroleum development, our accelerated activity in western Canada was a major feature of the year's operations. Our decision to establish a wholly owned subsidiary, Esso Resources Canada Limited, to cope with the changing emphasis in exploration is already producing tangible results.

A high level of performance was also apparent in the refining and marketing segment of our petroleum operations. Our ongoing efficiency programs, a continuing restructuring and upgrading of facilities, and the introduction of a number of enthusiastically received new products were successful in improving our market position and in keeping the earnings at the level of the previous year, despite the severely depressed market for petroleum products that prevailed for most of 1978. Recent improvements in market conditions could see a better return from our refining and marketing operations in 1979.

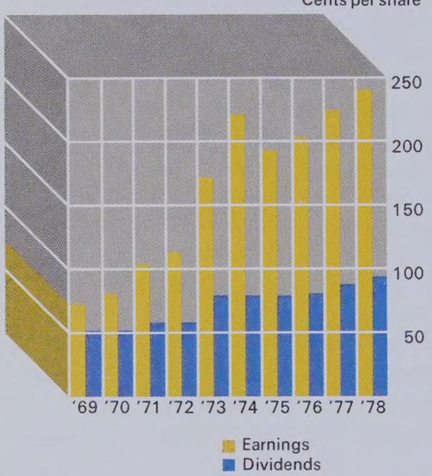
An equally commendable effort in our chemical operations allowed us to increase earnings in the face of particularly difficult business conditions, including the start-up of large-scale competitive operations in Ontario. In plastics, our products were successful in displacing a considerable quantity of imports in the domestic market, while we greatly increased our exports of building materials to the United States.

It is such solid achievements as these that give me the confidence to predict a prosperous future for Imperial. The company has emerged from a number of difficult years for the industry in sound condition and, I believe, now stands poised at the threshold of a new era of opportunity. It is well prepared, in every sense, to take advantage of such opportunity in a manner that can advance the interests of its shareholders as well as contribute to the economic progress of Canada as a whole.

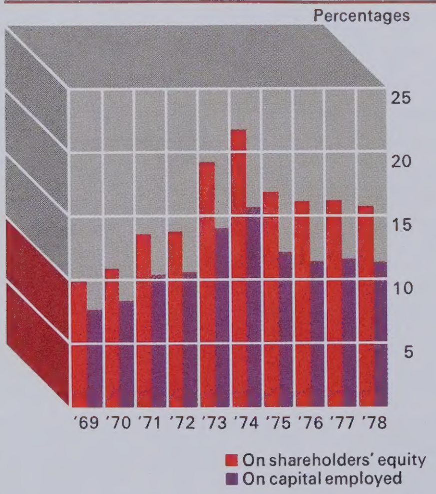
J. A. Armstrong
President and Chief Executive Officer and Chairman of the Board

In the Mackenzie Delta, the company holds eight million acres of highly promising lands. Inset are Julia Larue, left, who works in the drafting department in Calgary, George Johanesson, a roughneck on the drilling crew at Midwest Lake, and, right, Gary Piggott, testing a solar collector at Sarnia.

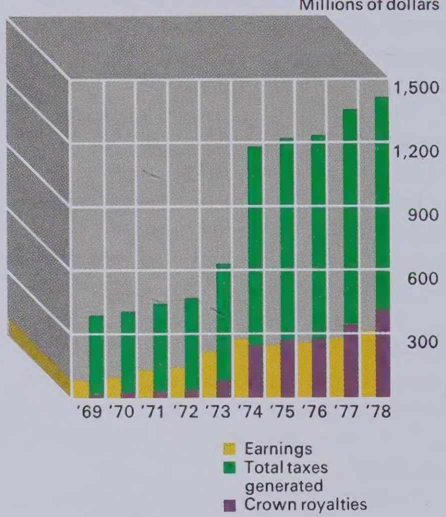
Earnings and dividends per share



Rates of return



Earnings, taxes, and royalties



Consolidated financial results

Earnings of Imperial Oil Limited in 1978 were $314 million, an increase of $21 million or seven percent over 1977 results. This represents earnings of $2.41 per share, compared with $2.25 for 1977. Dividends amounted to 95 cents per share, also an increase of seven percent over 1977. The return on capital employed of 11.4 percent in 1978 compares with 11.7 percent in the previous year.

The increase in 1978 earnings came primarily from the natural-resources segment. Higher prices for crude oil and natural gas combined with lower after-tax exploration expenses were the major reasons for the increase in resource earnings. Sales volumes of petroleum products went up by four percent and this increase, combined with some price firming towards the end of the year, was sufficient to hold earnings at about the same level as those of 1977. Prices and sales volumes of most chemicals increased during the year; combined with operating efficiences, they increased earnings by 25 percent in this segment. The reduction in the return on capital employed reflects the large investments made during 1978, which had not yet contributed to earnings at a rate comparable to other investments.

Total revenues were $5,737 million in 1978, an increase of $696 million over 1977 revenues.

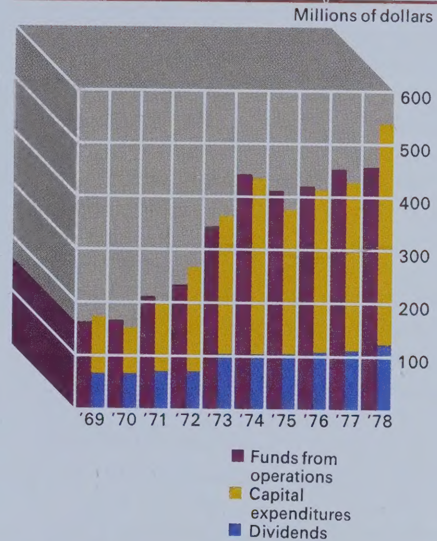
Expenses increased by $675 million over 1977 to a total of $5,423 million. The increase resulted mainly from higher

costs for purchases of crude oil and products, as well as higher operating, exploration, and selling costs.

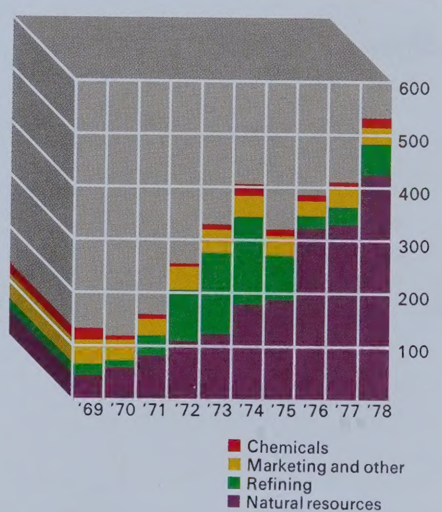
Capital and exploration expenditures reached a new record in 1978 of $535 million, a thirty-percent increase over 1977 expenditures. Eighty percent of the 1978 expenditures were made in the exploration for and development of natural resources.

The total of capital expenditures, dividends, and payments to reduce long-term debt was $553 million in 1978, an increase of $113 million or 25 percent over the 1977 figure. Of the cash required to meet this expenditure, $459 million came from operations and the remaining $94 million mainly from reductions to working capital and from sales of property, plant, and equipment.

Funds from operations compared with dividends and capital expenditures



Capital and exploration expenditures



Financial results by segment

Since 1976, the earnings of the major operating segments of the company and the capital they employ have been reported. Segmented reporting provides a means of displaying the financial and operating results of the components that make up the integrated operations of Imperial, from exploration to the sale to the consumer. The segmented results include the financial effect of transactions between segments. In the consolidated financial statements and the 10-year financial and operating summary, the effects of inter-segment transactions have been eliminated.

A summary of each segment's activities is included in the section describing the year's operations, beginning on page 6.

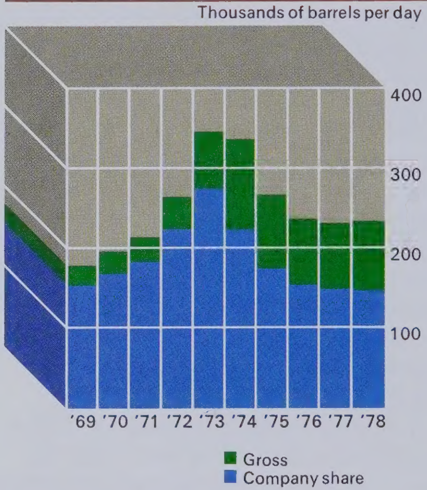
	Earnings after tax		*Capital employed at Dec. 31*		
	1978	1977	**1978**	1977	
	millions of dollars				
Natural resources	**209**	187	**1,238**	1,072	16.9%
Petroleum products	**75**	76	**1,410**	1,336	5.3%
Chemicals	**20**	16	**196**	169	
Interest on long-term debt	**(16)**	(16)	**–**	–	
Other operations	**26**	30	**141**	191	
	314	293	**2,985**	2,768	10.5%

Review of 1978 operations

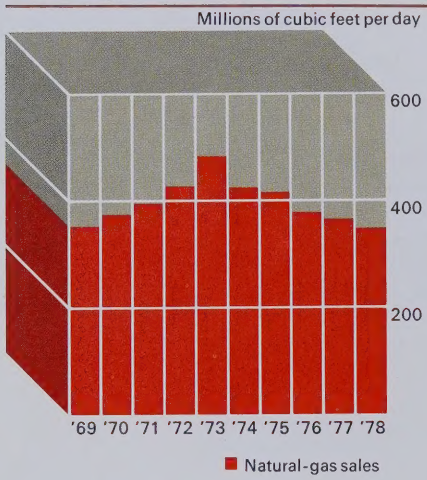
Natural resources

A company rig drilling a development well at the Judy Creek oil field in Alberta. Inset are Joe Proulx, top, driller at the Midwest Lake uranium property, and Mike Wozniczka, bottom, who helped drill the well at Mallik in the Mackenzie Delta.

Production of crude oil and natural-gas liquids



Natural-gas sales



Highlights

Earnings from the natural-resources segment of Imperial's operations in 1978 were $209 million, an increase of $22 million over 1977 results. The change is due mainly to increases in the price of crude oil and natural gas, offset to some extent by the start-up costs of the Syncrude plant.

During the year, a wholly owned subsidiary was formed, Esso Resources Canada Limited. The formation of this new company reflects a change in the company's petroleum exploration strategy. This change emphasizes the activity in the principal producing provinces and a reduction to a land management program in the Arctic frontiers.

In the frontiers, exploration permits are held in large blocks; in the provinces, exploration has been going on for many years and large blocks of permit acreage are no longer available. Individual leases are relatively small and must be purchased from the crown, or acquired from other companies. Competition for such leases is keen and the agility needed for a successful exploration strategy requires on-the-spot analysis and day-to-day decisions. This can be done best by management located on the scene.

The new subsidiary has responsibility for exploring for and producing oil and gas, for the company's interest in Syncrude Canada Ltd., for the development of the heavy, viscous oil at Cold Lake and the oil sands of the Athabasca and Peace River areas, and through its division, Esso Minerals Canada, the exploration for and development of uranium, base metals, and coal.

Esso Resources Canada's head office is in Calgary, where construction began on a 33-storey building for its headquarters early in 1979.

During the year, the company significantly increased its operations in western Canada. A total of 221 exploration and development wells were drilled in this area compared to 108 in 1977, of which 184 were capable of producing oil or gas. At the end of the year, 17 drilling rigs were active compared with six at the end of 1977. During the year, 55 million barrels of oil and 78 billion cubic feet of gas were added to the company's proved reserves.

Land holdings in the western provinces increased by 18 percent over 1977 to a total of 3.2 million net acres. These included a $179-million farm-in to lands held by Canadian Hunter Exploration Ltd. in Elmworth and other areas.

The company completed its plans for drilling offshore in the Atlantic region in 1978 and, early in 1979, received environmental clearances to apply for drilling permits.

In addition, the company carried out an extensive program of mineral exploration throughout the country, highlighted by the announcement of a major uranium discovery at Midwest Lake in northern Saskatchewan and the commencement of the development of the company's lead-zinc property in Nova Scotia.

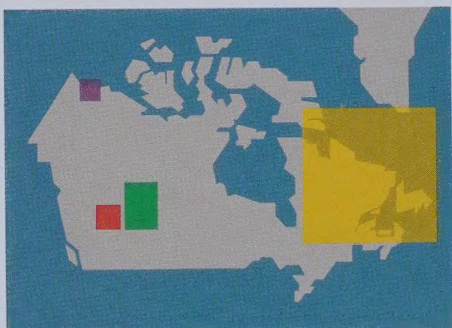
The financial and operating statistics for the natural-resources segment of the company's operations are reported in the following table.

Financial and operating statistics

	1978	1977
	millions of dollars	
Earnings	**209**	187
Capital and exploration expenditures	**429**	335
Capital employed	**1,238**	1,072
	thousands of barrels per day	
Gross production of crude oil and natural-gas liquids	**231**	230
	millions of cubic feet per day	
Sales of natural gas	**345**	363

The increase in capital employed is mainly due to the cost of successful exploration and development wells, expenditures on facilities to develop new oil and gas fields, the investments necessary to maintain production levels of crude oil and natural gas, and expenditures for completion of the Syncrude project.

Operations in oil and gas



Detail maps for these operations appear on the following pages

- Mackenzie Delta
- Elmworth area
- Heavy-oil activities
- Atlantic exploration

Oil and gas production

The company's gross production of crude oil and natural-gas liquids was 231,000 barrels per day in 1978. Demand for crude oil in the domestic market is expected to increase in 1979; if exports remain at the 1978 level, this will bring about a slight increase in the company's production in 1979.

The company's sales of natural gas averaged 345 million cubic feet a day in 1978, a reduction of five percent because productivity in a few older fields declined and demand was down. The company believes its gas production in 1979 could exceed 1978 levels. Under contract terms, buyers paid for but did not take 10 million cubic feet of gas a day during 1978. This gas will be delivered in future years.

Three oil fields in which the company has a major interest – Judy Creek, Redwater, and Golden Spike – accounted for 60 percent of the company's production of crude oil in 1978. Because of past capital investments to ensure high productivity in these three fields, the company can produce a larger share of industry production of crude oil during months of high demand. During 1978, this spare capacity permitted the company to capture some 6,000 barrels a day more than would otherwise have been produced. To maintain and improve producibility in the major fields where the company has an interest, $14 million was invested in 1978. This capital spending is estimated to have increased earnings by $7 million in 1978 and will continue to have a significant effect in future years.

In 1978, 75 new development wells added new oil reserves and production at Ferrier and the Viking sand at Judy Creek, as well as other fields in Alberta, at Lloydminster, Sask., and at some fields in British Columbia. Also, enhanced recovery techniques increased the production of oil and gas in other fields.

Feasibility studies were conducted during 1978 on a program to drill more development wells at the Judy Creek oil field and to increase oil recovery through

The Syncrude plant in the Athabasca oil sands went on stream in 1978 and shipped 3.6 million barrels of synthetic crude to market by year end.

Inset are Thecla Powder, left, who helped build the plant, and Gary Hennings, right, who operates one of the $30 million draglines.

a technique known as carbon-dioxide flooding. These studies suggest that significantly increased recovery is possible through these means, and a project could be started in 1979.

The company also started a reevaluation of the Norman Wells field to determine its full potential for production.

Oil-sands development

The heavy, viscous crude in the oil sands of Alberta is an important resource for Canada's future petroleum requirements. The National Energy Board has reported that the oil sands could reduce Canada's reliance on imported crude oil and should be developed promptly.

In 1978, the company was involved in two oil-sands projects. The Syncrude project in the Athabasca oil sands began production – an event of historical significance – and hearings on a proposal to develop a commercial project in the Cold Lake region opened before the Alberta Energy Resources Conservation Board.

Syncrude Canada Ltd.

Syncrude Canada Ltd., of which the company owned 31.25 percent at the end of the year, went on stream in 1978. The company's share of the synthetic crude is processed by its refineries at Strathcona, Alta. and Ioco, B.C. The Syncrude plant, which mines and upgrades Athabasca oil sands, is expected to produce about 100,000 barrels of synthetic crude oil a day by the end of 1979.

The project is an outstanding example of effective management and planning. Severe financial difficulties were overcome after one of the original participants withdrew in 1974. The first phase went on stream in July, 1978, and the second phase in October, six months ahead of schedule. At the peak of construction, more than 7,000 workers were on the job and the project has created more than 3,000 permanent jobs.

Start-up problems of the kind that are to be expected with a plant of this size and complexity were encountered in the fall and at the end of the year one of the two principal units was shut down for repairs. A total of 4.3 million barrels was produced in 1978, of which 3.6 million barrels was shipped by pipeline to market. The plant is expected to reach its permit capacity of 125,000 barrels a day in the early 1980s.

Cold Lake

The development of the deposits of heavy, viscous oil at Cold Lake, Alta., is potentially the largest project in the company's history. The project will produce at least 1¼ billion barrels of synthetic oil over a period of 25 years at a rate of 140,000 barrels a day. The estimated cost of bringing it into production is in the neighborhood of $5 billion. Because of the large capital requirement, equity participation in about 50 percent of the project is being offered to interested companies.

Cold Lake is a pioneering project; the company has been experimenting with ways to recover this oil and has spent $85 million to date. No underground reserves of such heavy and viscous oil have been produced commercially before. Research has developed new production and drilling technology to produce this oil.

The project moved a step closer to realization when hearings for an application began in December before the Energy Resources Conservation Board of Alberta. Planning for the project, including general specifications on which the design will be based, continued in 1978 at a cost of $14 million. With the current federal fiscal terms, Cold Lake could be on stream in 1986 if the Alberta government approves the project and acceptable royalty arrangements are established during 1979.

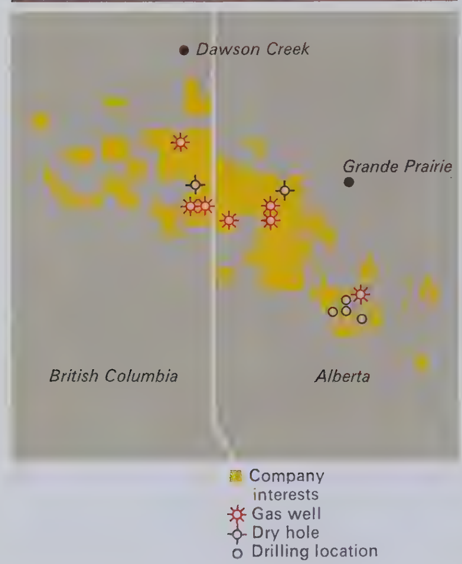
The planners estimate that as many as 10,000 people could be employed during construction, most of them at the site 300 km northeast of Edmonton. The completed project will create 2,000 permanent operating jobs there.

In order to predict the project's effects on the area, detailed studies of the environment and way of life of the region have been made. They conclude that the disturbance could be held to acceptable

Western provinces

Heavy-oil activities

Elmworth area



levels. The effects of the development on the local environment will be monitored throughout its construction and operation.

The company is cooperating with the communities in the Cold Lake area as well as with various government agencies in studies of the effects of the development on the region. During the year, the company held more than 125 meetings involving more than 1,200 people to keep local residents informed and to solicit their opinions.

Other activities in heavy oil
Besides its interests in Syncrude and Cold Lake, the company has interests in about 1.3 million acres of leases in the Athabasca and Peace River regions where the oil sands are underground and cannot be mined as are the surface deposits at the Syncrude site. Research is continuing on methods to develop these resources economically.

Through a farmout agreement, the company will be involved in a proposed pilot project southwest of the Syncrude plant in the Athabasca oil sands to evaluate a process combining electrical heating and steam to recover oil from underground formations. The farmee – Japan Canada Oil Sands Limited – will contribute up to $75 million to earn an interest.

Exploration

	1978	1977
	millions of dollars	
Exploration expenditures, oil and gas	**180**	114
Western provinces	**131**	36
Frontiers	**49**	78
Exploration wells drilled, gross/net	**107/61**	48/34
Western provinces	**102/58**	42/30
Frontiers	**5/3**	6/4
	millions of acres	
Oil and gas land holdings, gross/net	**67.4/30.2**	76.2/39.5
Western provinces	**7.9/3.2**	4.6/2.7
Frontiers	**59.5/27.0**	71.6/36.8

Western provinces
Working alone or with others during 1978, the company drilled 102 exploration wells in Alberta, British Columbia, and Saskatchewan, compared to 42 in 1977. Commercial quantities of oil or gas were discovered in 73 of these wells. The company spent $52 million for exploration rights to 99,000 net acres in western Canada in 1978, an increase of $32 million over 1977 spending.

In October, the company signed an agreement to obtain a net interest in 1.9 million acres of oil and natural-gas lands in Alberta, British Columbia, and Saskatchewan held by Canadian Hunter Exploration Ltd. The agreement gives the company the opportunity to acquire an interest of 12.5 percent in most of Hunter's acreage in the Elmworth area and 17.5 percent of Hunter's other acreage in the three provinces.

At the end of the year, the company held interests in 1.36 million gross (232,000 net) acres in the Elmworth area on the Alberta-British Columbia border where a large gas field is being developed. This is an increase of 1.1 million gross (138,000 net) acres over the 1977 figures. The company participated in the drilling of seven successful gas wells in this area in 1978 and two successful oil wells.

The remaining 44 oil and 20 gas discoveries in 1978 are scattered throughout Alberta, northeastern British Columbia, and Saskatchewan.

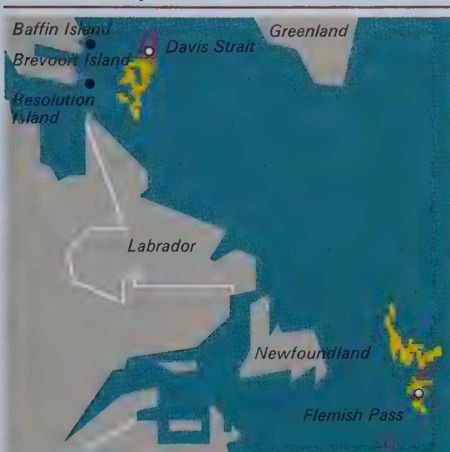
In the West Pembina region west of Edmonton, the company holds 215,000 gross acres of lands. During 1978, it continued to explore and define prospects there for drilling in 1979. Two prospects were drilled in 1978 and abandoned.

Mackenzie Delta

Company exploration permits indicated by shaded area

Gas discovery
Dry hole
Drilling location

Atlantic exploration



Company permits
Company options
Drilling location

Frontiers

The company has estimated reserves of 3.4 trillion cubic feet of gas as well as some oil in the Beaufort Basin. However, for a variety of reasons, it is not yet known when a pipeline will be built to connect these gas reserves to markets and the company has reduced the pace of its exploration program in the area. The company still holds rights to eight million acres of very promising land in the Beaufort Sea, on the Tuktoyaktuk Peninsula, around Richards Island, and in the southern part of the Mackenzie Delta. Three wells are planned for the area in 1979 – an exploration program that meets the work requirements necessary for the company to retain its permits on these lands.

Two wells were completed in the Beaufort during the year. Mallik, located 15 km northeast of the gas discovery at Taglu, was dry. Isserk E-27, drilled from an artificial island located 27 km north of the tip of Richards Island, discovered natural gas.

Even though Isserk is not considered commercial, the company was sufficiently encouraged by it to plan the drilling of another prospect called Issungnak nine kilometres north of the Isserk well. Construction of an artificial island in 18 m of water, the deepest yet in the Beaufort Sea, began in 1978 and will continue through 1979 in preparation for the drilling of this well in the 1979-80 winter season. The company has a 50-percent interest in the project.

In the Queen Elizabeth Islands of the Arctic, the company holds a 35-percent interest in the Arctic Islands Exploration Group, which is running a six-year, $80-million program. The 1978 program included 1,600 km of seismic surveys and the drilling of two wells from ice islands near Melville Island. One of the wells, off Roche Point, was a discovery with significant flows of gas from two zones. The other, off Cape Grassy, was dry.

In September, 1978, the company received permits from Newfoundland to explore 12.2 million acres off the coasts of Newfoundland and Labrador. Drilling of a well is planned to start in 1979. The company also holds a full interest in 3.2 million acres under federal jurisdiction in the Davis Strait area and an option to earn an interest of 65 percent in a further 1.9 million acres there. One well is planned for 1979.

These two locations will be drilled using a semi-submersible drilling rig, which was designed to operate in the water and weather conditions of the east coast. The location in the Flemish Pass 450 km east of St. John's is in water 1,100 m deep and the one in Davis Strait 240 km south of Baffin Island is in water 850 m deep. In preparation for drilling in Davis Strait, the company helped to build and run two unmanned weather stations on Brevoort Island and Resolution Island and to put a large, automated buoy in the strait to monitor wind, temperature, and water conditions.

In support of this drilling program, Imperial and others completed a three-year study of the impact of exploratory drilling in Davis Strait. The study considered the potential effect on plants and animals. The results were reviewed by the federal department of the environment and discussed at public hearings in Pangnirtung, Allen Island, Lake Harbour, Cape Dorset, and Frobisher Bay.

Renewable energy resources

The company committed $350,000 to a program of solar-energy research in 1978. As part of this program, a system to test solar collectors was built at the Sarnia research laboratories. A number of projects to test the economic feasibility of solar energy are planned for other Imperial facilities.

Heading for the site of the new artificial drilling island at Issungnak, a helicopter takes off from the barge camp anchored in the shelter of Pullen Island in the Beaufort Sea. Inset are biologist Mark Fraker, top, who is studying the beluga whales in the area; engineer Hal Janes, centre, using a range finder; and leading hand Al Jones, working on the core barge there.

Minerals

Through Esso Minerals Canada, a division of Esso Resources Canada Limited, the company operates a large mineral-exploration program. During 1978, exploration continued for uranium, base metals, and precious metals, with operations in Newfoundland, Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta, British Columbia, and the Northwest Territories. Exploration expenditures for uranium and other minerals in 1978 were $10 million, an increase of $3 million over the 1977 amount.

Uranium

In January, 1978, the company announced a significant uranium discovery at Midwest Lake in northern Saskatchewan. As operator, the company drilled 172 exploration holes during the year. The company holds a 50-percent interest in this find.

An independent study at Midwest Lake reported reserves of 1.3 million tonnes assaying 3.4 percent uranium oxide. (Most of the world's uranium-oxide comes from mines with ore grades of less than 0.3 percent.) The grade at Midwest Lake indicates 44 million kilograms of uranium oxide, or 34 kg per tonne.

Significant amounts of nickel and cobalt have also been encountered in the ore bodies at Midwest Lake.

So that commercial production of uranium may begin in the mid 1980s, basic environmental studies and preliminary engineering work were begun in 1978. Four drills will continue delineating the deposit and exploring the property in 1979.

Other minerals

Construction of surface facilities for a lead-zinc mine at Gays River, N.S., began in 1978 and start-up of production is scheduled for the fourth quarter of 1979. The deposit was discovered in 1973 and a mine and mill are being developed at a cost of $27 million. At full production, the mine will produce 47,000 tonnes of lead and zinc concentrates a year for export, having a metal content equivalent to about 12,000 tonnes of lead and 18,000 tonnes of zinc.

Minerals

A copper-zinc deposit at Kutcho Creek in northern British Columbia was extensively explored. Two diamond drills traced a new discovery on the property at an average depth of 520 m. In cores from nine holes drilled into this zone, mineralization was encountered in widths ranging from one to 21 m. The average grade of these cores is 3.08 percent copper and 5.67 percent zinc, with 58 grams of silver per tonne. The company will continue to evaluate the significance of this find and explore it further in 1979.

Surface drilling on a molybdenite deposit near Trout Lake, B.C., 60 km south of Revelstoke, continued in a joint venture operated by an associate during 1978. Analyses of cores showed grades of 0.2 to 0.4 per cent molybdenite in a deposit with a vertical dimension of about 300 m. Molybdenite in these grades is generally economic to develop.

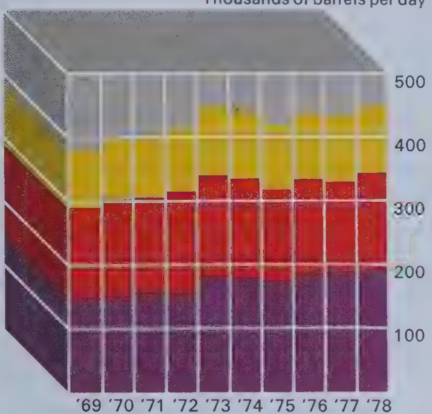
Coal

The company has 174,000 acres of leases containing an estimated 525 million tonnes of proven recoverable coal in north-central Alberta. The company has also applied for rights to a further 413,000 prospective acres in Alberta and 17,000 acres in British Columbia. The prospective acreage contains both sub-bituminous and bituminous coal.

The company has the right to earn an interest in Quintette Coal Limited, which controls leases containing an estimated 2.5 billion tonnes of metallurgical coal in northeastern British Columbia. Quintette completed its technical and economic evaluations in 1978 and began developing markets in preparation for a mine that would produce four million tonnes a year. In May, Romania signed a letter of intent for two million tonnes a year. At the end of the year, Quintette was pursuing the additional market commitments needed before construction of a mine can begin.


IMPERIAL NOOTKA

Consolidated petroleum-product sales



Highlights

The petroleum-products segment of Imperial's business includes the marketing, distribution, and manufacture of refined petroleum products and the sale of related products and services.

The company was able to maintain its earnings in the petroleum-products segment at virtually the same level as 1977 by introducing new products, operating more efficiently, and increasing the sales of more profitable products. These profits were earned despite severe competition, particularly in eastern Canada, which has surplus refinery capacity, and government policy of delaying price increases on refined products for 60 days after crude price increases.

Capital expenditures included programs to modernize the marketing network in Quebec and increase efficiency at the Montreal refinery.

Capital employed in 1978 increased mainly because of higher prices, offset to some extent by changes in the handling of agents' credit.

The company plans to continue its successful 1978 strategies, which included emphasis on customer satisfaction and increased efficiency in operations. These plans recognize that the petroleum-products industry is well into a period of transition as the rate of growth of demand for its products is affected by slower economic growth, conservation, and increasing substitution of natural gas and electricity for oil.

Financial and operating statistics

	1978	1977
	millions of dollars	
Earnings	**75**	76
Capital expenditures	**86**	61
Capital employed	**1,410**	1,336
	thousands of barrels per day	
Crude processed	**435**	425
Product sales	**500**	485

Marketing and refining

Imperial continued its policy of restructuring its retail chain into more efficient, larger-volume facilities with an emphasis on self-serve outlets, mostly operated by agents. The majority of the new self-serve outlets include service bays.

The company introduced Canada's first premium grade of unleaded gasoline, *Esso Extra Unleaded*, in April. This product, the result of two years' research, eliminates or reduces knocking, pinging, and engine run-on, and improves performance and mileage.

In March, Imperial introduced *New Formula Uniflo*, a new premium motor oil that can increase gasoline mileage and lengthen the interval between oil changes to 24,000 km. By the end of the year, sales of *New Formula Uniflo* were 60 percent higher than sales of the previous *Uniflo* for the same period in 1977.

One of the company's objectives is to reduce energy consumption through more efficient use. By increasing automobile efficiency, both *Esso Extra Unleaded* and *New Formula Uniflo* help to meet this aim. Introduction of the new *Esso Econoblue* forced-air furnaces late in 1978 extended this pursuit of efficiency to home heating. In tests, these compact furnaces reduced fuel consumption by as much as 20 percent in comparison with the furnaces they replaced.

In the past, crankcase oils for railway locomotives were made from imported crude oils that had low wax content. Since 1972, suitable crude oil has become harder to get and Imperial has been working with the railways and locomotive-engine manufacturers to develop

Imperial Nootka, a new self-propelled barge, supplies diesel fuel and lubricants to ships in Vancouver Harbor. Inset are Bob Elder, above, testing the capacity of a new metric container and Tom Wairegi, below, working on a pilot project studying the refining of Cold Lake crude at the Sarnia laboratory.

crankcase oils from other crude sources. As a result, in 1978 the railways approved wax-free locomotive oils derived from Canadian crudes. The development has made Imperial a leader in this technology.

Research programs for the development of *Esso Extra Unleaded* gasoline, *New Formula Uniflo* motor oil, the *Esso Econoblue* furnaces, and the railway crankcase oils cost about $2 million.

To enable Esso dealers and agents to meet the needs of customers most effectively, the company held 25 meetings throughout the country at which 3,300 dealers and agents learned about the company's new products and plans. In addition, more than 3,500 dealers, technicians, and apprentices attended courses on the repair and maintenance of new automotive systems, such as automotive electronics and high-energy ignition systems.

A significant proportion of customers buy their automotive supplies through supermarkets and department stores. To meet the needs of these customers, a retail stores division was formed in 1978 to sell Esso branded lubricants and specialty products in these outlets.

During 1978, the company installed minicomputers at all of its Home Comfort Centres across Canada so as to provide heating oil and service more efficiently. Imperial also made more use of minicomputers to automate the truck-loading and accounting functions at its distribution plants.

To provide better service to ships in Vancouver Harbor, the *Imperial Nootka* was commissioned in November. The *Nootka,* a self- propelled barge supplying diesel fuel and lubricants, cost $425,000 to build and has a capacity of 53,000 gallons.

The company announced a five-year, $92-million program to modernize its marketing network in Quebec and improve efficiency at the Montreal refinery. Of this amount, $32 million will be spent on marketing operations. New, more efficient service stations will be built and the operation of existing stations and distribution agencies improved. During the year, $6 million was spent on this program.

Investments of $18 million were made at the refinery in Montreal in 1978 to increase efficiency and improve environmental protection. The refinery program will cost $60 million and be completed in 1982. The program will result in a greater percentage of more profitable products. During 1978, the refinery's capacity was reduced by 25,000 barrels a day in order to increase efficiency and reduce operating costs.

The federal and provincial governments have established long-term goals for the quality of water discharged from refineries. Imperial's refineries at Ioco, Strathcona, and Sarnia already meet these goals. As part of a program to make all plants' effluent waters meet these rigorous standards by the end of 1980, the company began construction of new water-treatment facilities at the Montreal and Dartmouth refineries in 1975. They are estimated to cost $40 million by the time they are completed.

To increase the company's ability to cope with oil spills, equipment to recover spilled oil was added to three of Imperial's seven ships during 1978. Another ship will be equipped in 1979.

Imperial is a participant in Burrard Clean, a cooperative of companies on Burrard Inlet organized to respond quickly to oil spills in Vancouver harbor. The organization added two self-propelled oil-recovery vessels and other equipment in 1978 at a cost of $1.2 million.

In conformity with the federal government's schedule for metrication, plans to convert the sale of the company's products to the metric system were completed in 1978.

Highlights

Esso Chemical Canada is a division of Imperial. It manufactures and sells petrochemicals, plastic resins, agricultural chemicals, and fabricated products such as building materials and synthetic cordage.

During 1978, this division increased its sales revenues from plastic resins, agricultural chemicals, and fabricated products in selected markets. It substantially increased export sales, continued the development of new products, began marketing a new method for applying liquid ammonia fertilizer, and increased the efficiency of manufacturing processes.

Earnings from Esso Chemical were $20 million in 1978, an increase of $4 million over 1977. The 15-percent increase in sales revenue resulted mainly from sales of fertilizers and building materials. Revenue from the sale of petrochemicals and plastic resins was about the same as in 1977; decreases in ethylene revenue were offset by revenue from other petrochemicals, particularly plastic resins, which increased by 45 percent.

Export sales, mainly in U.S. markets, accounted for 17 percent of sales revenue. Exports were 15 percent higher than in 1977.

Capital expenditures in 1978 went to increase capacity, make operating facilities more efficient, conserve energy, improve safety at work, and protect the environment.

The company took part in the chemicals, fertilizer, and plastics-fabricating task forces set up by the federal government. There were 23 of these task forces set up to find ways to improve industrial strategy; their recommendations were presented to the government in July and were discussed at the conference of first ministers in November.

Financial and operating statistics

	1978	1977
	millions of dollars	
Earnings	**20**	16
Capital expenditures	**18**	12
Capital employed	**196**	169
Revenue	**489**	425
Petrochemicals and plastic resins	**231**	223
Agricultural chemicals	**112**	89
Fabricated products	**146**	113

Petrochemicals

Revenue from sales of petrochemicals and plastics was $231 million in 1978, an increase of $8 million over 1977 revenue.

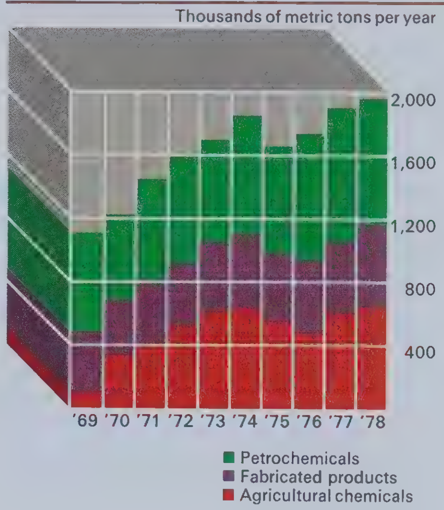
A new petrochemical plant opened by another company in 1977 increased Canadian production capacity of primary petrochemicals well above the domestic demand foreseen for the next several years. Imperial's sales of ethylene dropped as a result. Programs to limit cost increases and improve operating efficiency significantly lessened the adverse impact on the company's operations. Ethylene leads all other petrochemicals in tonnage. It is used to make plastics, synthetic rubber and fibres, industrial alcohol, and anti-freeze.

Benzene sales in 1978 were $16 million, about the same as 1977. Volumes were about the same. Benzene is used mainly in the manufacture of styrene for synthetic rubber and for polystyrene, one of the four most common plastics. A larger percentage of benzene sales was made in export markets – 41 percent in 1978 compared with 20 percent in 1977.

Sales revenue from exports of tetramer and nonene increased by 12 percent over 1977. Tetramer is used to make synthetic detergents; nonene is used to make plasticizer, a substance that gives greater flexibility to plastics. Demand for tetramer is increasing and the company is expanding its plant at Sarnia with a capital investment in 1978 of about $3 million.

During the year, the company began production of hexane, a solvent used in oilseed extraction and in the manufacture of adhesives. The market for this product is growing.

Chemical sales



Revenue from the sale of plastic resins in 1978 was up by 45 percent over 1977. The company increased its market share of plastic resins in 1978 by displacing U.S. imports which, as a result of changes in the exchange rate, were less competitive. Plastic resins, mainly polyvinyl chloride, are used to make plastic pipe, coated fabric, wire coatings, vinyl siding, window frames, flexible moldings, and packaging materials.

A significant improvement was made in the quality of water discharged from a major section of the Sarnia chemical plant in 1978. An activated carbon unit installed at a cost of $500,000 removes aromatic hydrocarbons and phenols, raising the quality of the effluent water above the provincial standards.

Agricultural chemicals

Fertilizer sales were 657 kilotonnes in 1978, an increase of eight percent over 1977 sales. The increase was due mainly to the rapidly growing demand for fertilizer in western Canada where all of Imperial's Canadian sales of fertilizer are made. In 1978, sales of fertilizer in this market rose to 67 percent of total production, compared with 55 percent in 1977. Exports filled out plant capacity. Prices were beginning to rise at the end of the year while demand continued strong.

A new method for applying liquid ammonia fertilizer was made available to Prairie farmers in the fall of 1978. It allows the farmer to apply this fertilizer to a wider range of soils and gives him greater flexibility in choosing the best time to fertilize his land. It also reduces his operating costs by combining fertilizing with cultivation. Liquid ammonia fertilizer is made at one of the company's plants at Redwater, Alta.

Construction of a $2-million storage and bulk handling warehouse began in 1978 at Bloom, Man. The warehouse will improve the distribution of fertilizers and is expected to be completed in 1979.

Fabricated Products

Two wholly owned subsidiary companies manufacture fabricated products. Building Products of Canada Limited makes building materials and Poli-Twine Corp. Ltd. makes synthetic cordage.

Sales of fabricated products increased 29 percent over 1977 to $146 million, with gains in virtually all markets. Building Products' export sales, mainly roofing and paper products sold in the U.S., were up in 1978 by more than 75 percent. Total tonnage rose 16 percent over 1977 to more than 500 kilotonnes.

Housing construction in Canada was strong in the first quarter of 1978, but declined during the year, with 19,000 fewer starts in 1978 than in 1977. Despite this, sales of roofing, paper products, sheathing, backerboard, and ceiling tiles in 1978 increased 23 percent over 1977 sales, a consequence of the strong first-quarter domestic market, greater demand in western Canada, and an increase in U.S. demand.

The fertilizer plants at Redwater, Alta., manufacture phosphatic and nitrogenous fertilizers. In the insets at the right, Doug Svarich analyses samples of Redwater's effluent water and LaVern Willoughby checks Redwater's noise levels, a semi-annual routine since 1969. At left, John Houston tests ESFEN insulation at the Building Products plant in Rexdale, Ontario.

Other operations

Demand for insulation continued to grow as the public responded to calls for energy conservation and because of changes in insulation standards in building codes. As a result, Building Products' sales of insulating products for residential and commercial applications increased about 45 percent. Sales of ESFEN roof insulator, a unique product nearly a decade in development for Canadian applications and the key part of a roofing system sold by Building Products, were double the 1977 level. To capitalize on its technical advantages and significant earnings potential as sales increase, further development of this product is continuing.

Sales of ESCLAD vinyl house siding increased in 1978 by 77 percent over the 1977 figures.

Sales of Poli-Twine ESLOK baler twine and ESCORD rope and twine were up 19 percent in 1978 over 1977, although the market for these products continues to be dominated by duty-free imports.

Highlights
This section reports the operations and equity earnings of Imperial's principal investments, the earnings from its property development, and the net income from the interest on cash investments less the cost of short-term debt.

Financial statistics

	1978	1977
	millions of dollars	
Earnings	**26**	30
Capital expenditures	**2**	4
Capital employed	**141**	191

Investment income
Imperial's principal investments are mainly in pipelines for crude oil and petroleum products. Income from these investments increased during the year, mainly because larger volumes were handled.

The principal investments and Imperial's percentage interests in them are: Alberta Products Pipe Line Ltd., 30 percent; Interprovincial Pipe Line Limited, 32.8 percent; Montreal Pipe Line Limited, 32 percent; Rainbow Pipe Line Company, Ltd., 33.3 percent; Tecumseh Gas Storage Limited, 50 percent; and Trans Mountain Pipe Line Company Ltd., 8.6 percent.

Property Development
Devon Estates Limited, a wholly owned subsidiary, continued to be active in the development of vacant service-station properties. During the year, 74 properties were leased to owners of small businesses and, in some cases, medium-sized shopping centres. At the end of the year, Devon Estates had leased 240 properties. This activity is becoming an increasing source of cash for the company.

Summary of accounting policies

At Cold Lake, a cluster of pumps on a small pad raise oil from wells drilled at angles to recover the oil from a much greater area underground. Inset, left, are lawyer George Howse in the Calgary office's law library and Keith Foster, right, production foreman at Cold Lake.

Principles of consolidation
The consolidated financial statements include the accounts of Imperial Oil Limited and its wholly owned subsidiary companies. All inter-company accounts and transactions have been eliminated. A list of subsidiary companies is shown on page 33.

Imperial's proportionate share of the revenues, expenses, assets, and liabilities of the Syncrude project are included in the accounts.

Inventories
Inventories of crude oil and products are valued at cost using the first-in, first-out method, which is less than net realizable value.

Materials and supplies are valued at the lower of cost and net realizable value.

Investments
The principal investments in other companies are accounted for on the equity basis. Imperial's share of the net assets of these companies is recorded in the consolidated balance sheet as "Investments." Imperial's share of their earnings before income taxes is recorded in the consolidated statement of earnings as "Equity in earnings of principal investments." The income taxes relating to these earnings are included in "Income taxes" in the same statement.

Other investments are recorded at cost and income from them is recorded only as dividends are declared.

The ownership percentages of Imperial's principal investments are shown on page 26. The amount at which all investments are recorded is shown in Note 4 of the notes to the financial statements.

Property, plant, and equipment
Property, plant, and equipment are recorded at cost and so carried until sold or otherwise disposed of.

Imperial follows the successful-efforts method of accounting for its exploration and development activities. Costs of exploration acreage are capitalized and amortized over the period of exploration or until a discovery is made. Other exploration costs, including dry holes, are charged against earnings as incurred. All costs of successful exploration and development wells are capitalized.

The costs of maintenance and repairs are charged to current operating expense but improvements that increase the service capacity of an asset or prolong its service life beyond that contemplated in the established rates of depreciation are capitalized.

Depreciation of plant and equipment is based on the estimated service life of the asset, calculated on the straight-line method. Amortization of producing-well costs, of capitalized producing-lease costs, and of the capitalized costs of the Syncrude project is determined on the unit-of-production method.

Gains or losses on assets sold or otherwise disposed of are included in earnings.

Federal import compensation
Amounts received or claimed under the federal compensation program for oil imports are deducted from the cost of purchasing crude oil and products. Imperial has maintained its selling prices in accordance with federal government guidelines in order to be eligible for this compensation.

Income taxes
Imperial follows the tax-allocation basis of accounting for income taxes.

Taxes other than income taxes
The special gasoline excise tax, federal sales tax, and other commodity taxes are included in "Taxes other than income taxes" in the consolidated statement of earnings.

Taxes levied on the consumer and collected by Imperial, primarily provincial taxes on motor fuels, are excluded from "Petroleum products" in the consolidated statement of earnings, as is the federal tax on exports of crude oil and petroleum products.

Employee retirement plans
Imperial has a number of retirement plans covering substantially all employees. Costs of these plans are charged to earnings and funded on the basis of actuarial calculations made at least every three years. Increases in the estimated present value of projected benefits created by revisions to the plans are amortized over 15 years. The effect of inflationary forces, which cause salary levels to rise at a rate faster than that used in the actuarial calculations, is provided for annually. Shortages experienced as a result of other factors in the actuarial calculations, including decreases in the market value of securities, are provided for over 15 years.

Imperial Oil Limited

Consolidated statement of earnings for the years 1978 and 1977

	1978	1977
Revenues	*millions of dollars*	
Petroleum products	**3,308**	2,852
Crude oil and natural gas (including sale of purchased crude: 1978 – $1,594; 1977 – $1,440)	**1,772**	1,595
Chemicals	**468**	406
Other products	**81**	75
Other operating revenues	**42**	42
Equity in earnings of principal investments	**38**	41
Investment and other income	**28**	30
	5,737	5,041
Expenses		
Purchases of crude oil and products	**3,611**	3,082
Operating and exploration	**553**	472
Selling and administration	**480**	432
Depreciation and amortization	**112**	103
Income taxes (Note 2)	**266**	272
Taxes other than income taxes	**372**	357
Interest on long-term debt	**29**	30
	5,423	4,748
Earnings for the year	**314**	293
	dollars	
Earnings per share	**$2.41**	$2.25

As reported in Note 1, "Expenses" for 1977 have been restated.

The summary of accounting policies and notes to the financial statements are part of this statement.

Consolidated balance sheet as at December 31, 1978 and 1977

	1978	1977
Assets	*millions of dollars*	
Current assets:		
Cash, including time deposits	**146**	33
Marketable securities, at the lower of cost and market	**13**	47
Accounts receivable (Note 3)	**657**	623
Inventories:		
Crude oil and products	**550**	475
Materials and supplies	**68**	47
Prepaid expenses	**16**	11
Total current assets	**1,450**	1,236
Investments (Note 4)	**102**	98
Long-term accounts receivable and other assets	**43**	39
Property, plant, and equipment at cost, less accumulated depreciation and amortization of \$1.17 billion (1977–\$1.10 billion) (Notes 1 and 5)	**2,298**	2,009
Total assets	**3,893**	3,382
Liabilities and deferred credits		
Current liabilities:		
Short-term notes (Note 6)	**106**	14
Accounts payable and accrued liabilities (Note 3)	**608**	532
Income and other taxes payable	**194**	68
Total current liabilities	**908**	614
Long-term debt (Note 7)	**313**	323
Other long-term obligations	**9**	9
Deferred income taxes (Note 1)	**577**	540
Total liabilities and deferred credits	**1,807**	1,486
Shareholders' equity		
Capital stock (Note 8)	**289**	289
Earnings retained and used in the business:		
At beginning of year, as previously reported	**1,621**	1,448
Adjustment for change in accounting for exploration expenditures (Note 1)	**(14)**	(18)
As restated	**1,607**	1,430
Earnings for the year	**314**	293
Dividends (per share: 1978–95.0¢; 1977–88.8¢) (Note 8)	**(124)**	(116)
At end of year	**1,797**	1,607
Total shareholders' equity	**2,086**	1,896
Total liabilities, deferred credits, and shareholders' equity	**3,893**	3,382

The summary of accounting policies and notes to the financial statements are part of this statement.

Approved by the board

J. Armstrong
President and Chief Executive Officer

J. Livingstone
Executive Vice-President

Imperial Oil Limited

Consolidated statement of changes in financial position for the years 1978 and 1977

	1978	1977
	millions of dollars	
Funds were provided from:		
Operations:		
Earnings for the year	**314**	293
Charges/(credits) not affecting working capital:		
Depreciation and amortization	**112**	103
Deferred income taxes	**37**	63
Excess of equity earnings over dividends declared	**(4)**	(4)
	459	455
Sales of property, plant, and equipment	**18**	18
Other, net	**(4)**	(1)
	473	472
Funds were used for:		
Capital expenditures for property, plant, and equipment	**419**	316
Dividends	**124**	116
Reduction of long-term debt	**10**	8
	553	440
Increase (decrease) in working capital	**(80)**	32

The summary of accounting policies and notes to the financial statements are part of this statement.

The company is restructuring its retail chain into more efficient, larger-volume facilities like this self-serve station with service bays in Toronto. Inset are Clyde Hodder, left, loading a tank truck at the Finch Ave. terminal in Toronto; Blaine Stein and Joe Patterson, right, working on a computer ignition system at a training course in Barrie, Ont.; and Pam Westman, testing oil samples at the customer service lab in Sarnia.

Auditors' report

To the Shareholders of Imperial Oil Limited:

We have examined the consolidated statements of earnings and changes in financial position of Imperial Oil Limited for the year ended December 31, 1978 and the consolidated balance sheet as at that date. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the results of operations and changes in financial position of the company for the year ended December 31, 1978 and its financial position at that date in accordance with generally accepted accounting principles applied, after giving retroactive effect to the change in accounting for exploration expenditures as described in Note 1, on a basis consistent with that of the preceding year.

Price Waterhouse & Co.

Chartered Accountants,
Toronto-Dominion Centre,
Toronto, Ontario.
February 26, 1979

Notes to the financial statements

1. Change in accounting policy

In 1978, Imperial changed its method of accounting for exploration expenditures. In the past, these expenditures were charged against earnings as incurred except for expenditures to acquire acreage expected to be productive. Because of the long-term nature of these acquisitions, all costs of exploration acreage are now capitalized and amortized over the period of exploration or until a discovery is made. All other exploration costs except successful drilling are expensed as incurred. As a result of this change, earnings retained at Jan. 1, 1978, have been reduced by $14 million to $1,607 million. The reduction in retained earnings is composed of reductions of $19 million in property, plant, and equipment and $5 million in deferred income taxes. Had the former method of accounting been applied, earnings in 1978 would have been reduced by $16 million. Earnings for 1977 have been increased by $4 million by applying this change retroactively.

2. Income taxes

	1978	1977
	millions of dollars	
Imperial Oil Limited:		
Current	**210**	187
Deferred	**37**	63
Principal investments at equity value	**19**	22
	266	272

The operations of Imperial are complex and the related income tax interpretations, regulations, and legislation are continually changing. As a result, there are usually some tax matters in question. The company believes the provision made for income taxes payable is adequate.

3. Amounts owing to and from affiliated companies

Included in "Accounts payable and accrued liabilities" and "Accounts receivable" in the financial statements are amounts owing to and from affiliated companies of $52 million and $1 million respectively at Dec. 31, 1978 ($76 million and $1 million respectively at Dec. 31, 1977). All of these amounts arose in the normal course of operations. Included in "Short-term notes" is $44 million (1977–nil) payable to an affiliated company.

4. Investments

	1978	1977
	millions of dollars	
At equity value:		
With quoted market value of $142 million at Dec. 31, 1978 ($124 million at Dec. 31, 1977)	**75**	72
Without quoted market value	**19**	20
At cost	**8**	6
	102	98

Investments carried at equity value are primarily investments in pipeline companies that transport crude oil and petroleum products.

5. Property, plant, and equipment

	Cost		*Accumulated depreciation and amortization*	
	1978	1977	**1978**	1977
	millions of dollars			
Natural resources				
Exploration and production	**977**	811	**371**	340
Heavy oil	**670**	538	**18**	16
Minerals	**10**	2	**1**	1
	1,657	1,351	**390**	357
Petroleum products				
Refining	**1,002**	974	**387**	366
Marketing	**477**	474	**213**	209
	1,479	1,448	**600**	575
Chemicals	**256**	246	**147**	142
Other	**75**	64	**32**	26
	3,467	3,109	**1,169**	1,100

6. Short-term notes

Short-term notes include $44 million outstanding at Dec. 31, 1978, with an affiliated company (nil at Dec. 31, 1977). The month-end average of all short-term debt outstanding during 1978 amounted to $30 million (1977–$23 million). The maximum amount of short-term notes outstanding at the end of any month in 1978 was $106 million (1977 –$53 million). The effective interest rates on notes outstanding during the year ranged from 6.95 percent to 10.58 percent.

7. Long-term debt

	1978	1977
	millions of dollars	
6¾% Sinking Fund Debentures, 1967 issue, maturing Jan. 2, 1987	**27**	30
7⅜% Sinking Fund Debentures, 1968 issue, maturing Jan. 2, 1988	**30**	33
8½% Sinking Fund Debentures, 1969 issue, maturing Aug. 15, 1989	**16**	18
6⅞% Serial Debentures, 1972 issue, maturing Feb. 15, 1981	**7**	10
7¾% Sinking Fund Debentures, 1972 issue, maturing Feb. 15, 1992	**35**	35
10⅝% Sinking Fund Debentures, 1974 issue, maturing Aug. 15, 1994	**100**	100
9¾% Sinking Fund Debentures, 1975 issue, maturing Feb. 15, 1995	**100**	100
	315	326
Amount due within one year	**2**	3
	313	323

Sinking-fund and maturity payments required during the next five years are: 1979 – $2 million; 1980 – $10 million; 1981 – $19 million; 1982 – $19 million; 1983 – $19 million.

8. Capital stock

Number of shares	*Class A*	*Class B*
Authorized	160,000,000	160,000,000
Issued:		
Dec. 31, 1978	35,168,415	95,099,714
Dec. 31, 1977	34,886,199	95,353,380

Each class of shares is voting, convertible into one another on a share-for-share basis, and ranks equally with respect to dividends and in all other respects. In the case of Class B shares, cash dividends have been paid out of tax-paid undistributed surplus on hand or out of 1971 capital surplus on hand as defined in the Income Tax Act of Canada.

Imperial has two stock-option plans for employees under which options for the purchase of Class A or Class B common shares of the company are still outstanding. No further options may be granted under either of these plans. As of Dec. 31, 1978, there were outstanding options to purchase 979,322 shares at prices ranging from $14.06 to $38.14. All options may be exercised currently.

Included in the above are 203,640 shares under option to directors and officers. In 1978, options were exercised totalling 28,550 shares for $480,000 under the terms of the plans.

9. Remuneration of directors and officers

In 1978, the aggregate remuneration of 10 directors and two former directors of the company when serving only as directors or as both directors and officers was $1,824,000. The aggregate remuneration of nine other officers and three former officers of the company when serving only as officers was $1,272,000. Seven directors and two former directors were officers in 1978.

10. Long-term incentive compensation

Imperial has a long-term incentive compensation plan under which additional compensation may be granted to selected employees. Future payments with respect to incentive compensation will be based on any increase in the price of Imperial Class A shares or any increase in the earnings per share of the company. Total charges to earnings in respect of this incentive for 1978 were $3,400,000 (1977 – $1,771,000).

11. Employee retirement plan

The estimated market value of the pension-fund assets is $431 million. As a result of enhancements to the plan and increases in benefits paid to annuitants, the present value of the benefits at Dec. 31, 1978, exceeded the estimated market value by $87 million. This amount will be amortized over the next 15 years, as reported in the summary of accounting policies on page 21.

The company contributed $35 million to the plan in 1978 (1977 – $34 million) and charged this to earnings.

12. Contingencies and commitments

The company has a number of contractual obligations and commitments payable under long-term agreements, all of which arose in the normal course of business. The total future liability for all of these agreements is not significant in relation to the consolidated financial position of the company.

A number of lawsuits are pending against the company. In the opinion of counsel, any financial liability that may result from these suits would not have a significant effect on the consolidated financial position of the company.

13. Option of Alberta Energy Company Ltd.

The Alberta Energy Company Ltd. holds an option to acquire up to 20 percent of the existing participating interests in Syncrude. This option may be exercised any time up to Sept. 1, 1979.

Should this option be exercised to the maximum extent, Imperial's 31.25-percent interest would be reduced to 25 percent with a proportionate reimbursement for its investment.

Imperial Oil Limited

Ten-year financial and operating summary

(dollars in millions except per-share and per-employee amounts)

Revenues / Earnings / Dividends

	Revenues: Petroleum products	Crude oil and natural gas	Chemicals	Other products	Other operating	Total operating revenues	Equity in earnings of principal investments	Investment and other income	Total revenues	Earnings: Total	Per share (1)	Dividends: Total	As a percentage of earnings	Per share
1978	**3,308**	**1,772**	**468**	**81**	**42**	**5,671**	**38**	**28**	**5,737**	**314**	**2.41**	**124**	**39**	**.95**
1977	2,852	1,595	406	75	42	4,970	41	30	5,041	293	2.25	116	40	.888
1976	2,495	1,353	345	71	40	4,304	34	29	4,367	263	2.02	106	40	.816
1975	2,073	1,542	320	72	40	4,047	33	30	4,110	252	1.93	104	41	.80
1974	1,789	1,424	318	76	38	3,645	36	32	3,713	288	2.21	104	36	.80
1973	1,316	946	198	74	46	2,580	44	24	2,648	222	1.72	104	47	.80
1972	1,094	699	155	70	27	2,045	36	23	2,104	146	1.14	77	53	.60
1971	1,022	650	145	65	25	1,907	32	22	1,961	135	1.05	77	57	.60
1970	924	534	131	63	28	1,680	28	21	1,729	102	.80	68	67	.525
1969	877	437	123	59	15	1,511	24	15	1,550	91	.71	68	75	.525

Funds from operations / Capital and exploration expenditures

	Funds from operations		Capital and exploration expenditures: Natural resources					Petroleum products						
	Total	Per share (1)	Exploration	Production	Heavy oil	Minerals	Total	Refining	Marketing	Total	Chemicals	Other	Total	Portion expensed
1978	**459**	**3.52**	**180**	**89**	**138**	**22**	**429**	**54**	**32**	**86**	**18**	**2**	**535**	**116**
1977	455	3.49	114	31	179	11	335	32	29	61	12	4	412	96
1976	421	3.24	110	24	187	9	330	23	26	49	13	2	394	81
1975	415	3.18	68	18	102	5	193	85	29	114	17	2	326	49
1974	444	3.41	68	43	66	6	183	165	42	207	12	2	404	65
1973	345	2.67	60	57	6	5	128	154	42	196	7	2	333	69
1972	236	1.84	70	39	4	3	116	93	37	130	6	7	259	65
1971	212	1.65	42	40	4	2	88	35	29	64	5	4	161	37
1970	168	1.31	31	27	2	2	62	15	39	54	5	1	122	33
1969	167	1.28	26	19	2	2	49	22	45	67	17	1	134	28

Taxes and royalties / Share ownership

	Taxes and royalties: Charged against income						Collected for governments		Share ownership: Shareholders		Shares	
	Income taxes	Federal sales tax	Special gasoline excise tax	Other commodity taxes	Crown royalties	Total	Export tax	Road and other taxes	Number at Dec. 31	Resident in Canada *(percent)*	Issued Dec. 31 *(thousands)*	Held in Canada *(percent)*
1978	**266**	**161**	**164**	**47**	**427**	**1,065**	**32**	**330**	**46,962**	**88**	**130,268**	**24**
1977	272	146	174	37	355	984	58	325	45,985	88	130,240	24
1976	213	119	168	36	291	827	119	294	45,807	87	130,211	24
1975	239	97	88	32	273	729	224	270	44,672	87	130,208	22
1974	267	81	–	28	251	627	297	272	44,433	85	130,189	20
1973	145	70	–	35	81	331	16	287	42,646	84	130,117	18
1972	95	59	–	22	37	213	–	259	44,171	84	129,520	20
1971	95	57	–	20	29	201	–	245	46,188	84	129,105	21
1970	73	52	–	19	26	170	–	239	52,934	86	128,594	24
1969	64	52	–	18	21	155	–	233	50,188	85	128,528	24

(1) Per-share amounts
Per-share amounts for earnings and funds from operations have been calculated using the monthly weighted average of shares issued.

(2) Earnings as a percentage of capital employed
Earnings after income taxes plus after-tax interest on long-term debt. This amount is expressed as a percentage of average capital employed. Capital employed is total assets less current liabilities.

(3) Earnings as a percentage of shareholders' equity
Earnings after income taxes expressed as a percentage of average shareholders' equity. Shareholders' equity is capital stock plus earnings retained and used in the business.

(4) Payroll and benefits per employee
Total payroll and benefits for full-time employees divided by the monthly average number of full-time employees.

(5) Land holdings
Land holdings exclude the interests of others. Holdings relating to conventional oil and gas, Cold Lake, and the Athabasca oil sands are included; holdings for coal and other minerals are excluded.

Financial position at year-end

	Current assets	Current liabilities	Current ratio	Working capital	Property, plant, and equipment net	Capital employed (2)	Earnings as a percentage of capital employed (2)	Total assets	Long-term debt	Shareholders' equity (3)	Earnings as a percentage of shareholders' equity (3)
1978	**1,450**	**908**	**1.6**	**542**	**2,298**	**2,985**	**11.4**	**3,893**	**313**	**2,086**	**15.8**
1977	1,236	614	2.0	622	2,009	2,768	11.7	3,382	323	1,896	16.2
1976	1,166	576	2.0	590	1,814	2,536	11.5	3,112	331	1,718	16.0
1975	1,167	595	2.0	572	1,619	2,328	12.2	2,923	342	1,561	16.9
1974	1,085	645	1.7	440	1,447	2,028	15.8	2,673	265	1,413	21.8
1973	762	382	2.0	380	1,201	1,723	14.1	2,105	224	1,228	19.1
1972	658	283	2.3	375	1,021	1,535	10.6	1,818	221	1,098	13.8
1971	625	299	2.1	326	907	1,377	10.5	1,676	166	1,022	13.7
1970	577	274	2.1	303	866	1,310	8.4	1,584	173	956	10.9
1969	517	221	2.3	296	856	1,277	7.8	1,498	178	921	10.0

Employees

	Number at Dec. 31	Payroll and benefits Total	Per employee (4)
1978	**14,328**	**384**	**26,100**
1977	14,136	354	23,700
1976	14,753	339	21,600
1975	15,321	326	19,800
1974	16,117	284	17,200
1973	15,936	227	13,900
1972	15,549	201	13,000
1971	15,019	190	12,200
1970	15,543	176	11,200
1969	15,516	162	10,500

Exploration and production

	Land holdings (5) *(millions of acres)*	Net wells drilled		Gross proved reserves (6)		Gross production of crude oil (7) *(thousands of barrels per day)*
		Exploratory	Development	Crude oil (7) *(millions of barrels)*	Natural gas *(billions of cubic feet)*	
1978	**30**	**61**	**85**	**1,366**	**2,166**	**231**
1977	40	34	41	1,038	2,200	230
1976	50	16	11	1,101	2,366	236
1975	61	6	8	1,137	2,519	265
1974	67	16	49	1,206	2,607	337
1973	89	26	42	1,338	2,868	345
1972	89	20	43	1,387	3,060	262
1971	87	12	32	1,489	3,188	213
1970	65	23	27	1,567	3,328	199
1969	45	54	31	1,702	3,340	179

Crude supply and utilization (7)

(thousands of barrels per day)

	Net production	Net purchases from others (8)		Crude oil processed	Refinery capacity at Dec. 31	Utilization of capacity *(percent)*
		Domestic	Imported			
1978	**147**	**169**	**119**	**435**	**490**	**89**
1977	148	156	121	425	511	83
1976	154	118	151	423	509	83
1975	173	70	152	395	505	78
1974	224	42	172	438	479	91
1973	275	(13)	179	441	477	92
1972	224	19	156	399	469	85
1971	183	70	159	412	447	92
1970	170	82	154	406	431	94
1969	154	83	140	377	422	89

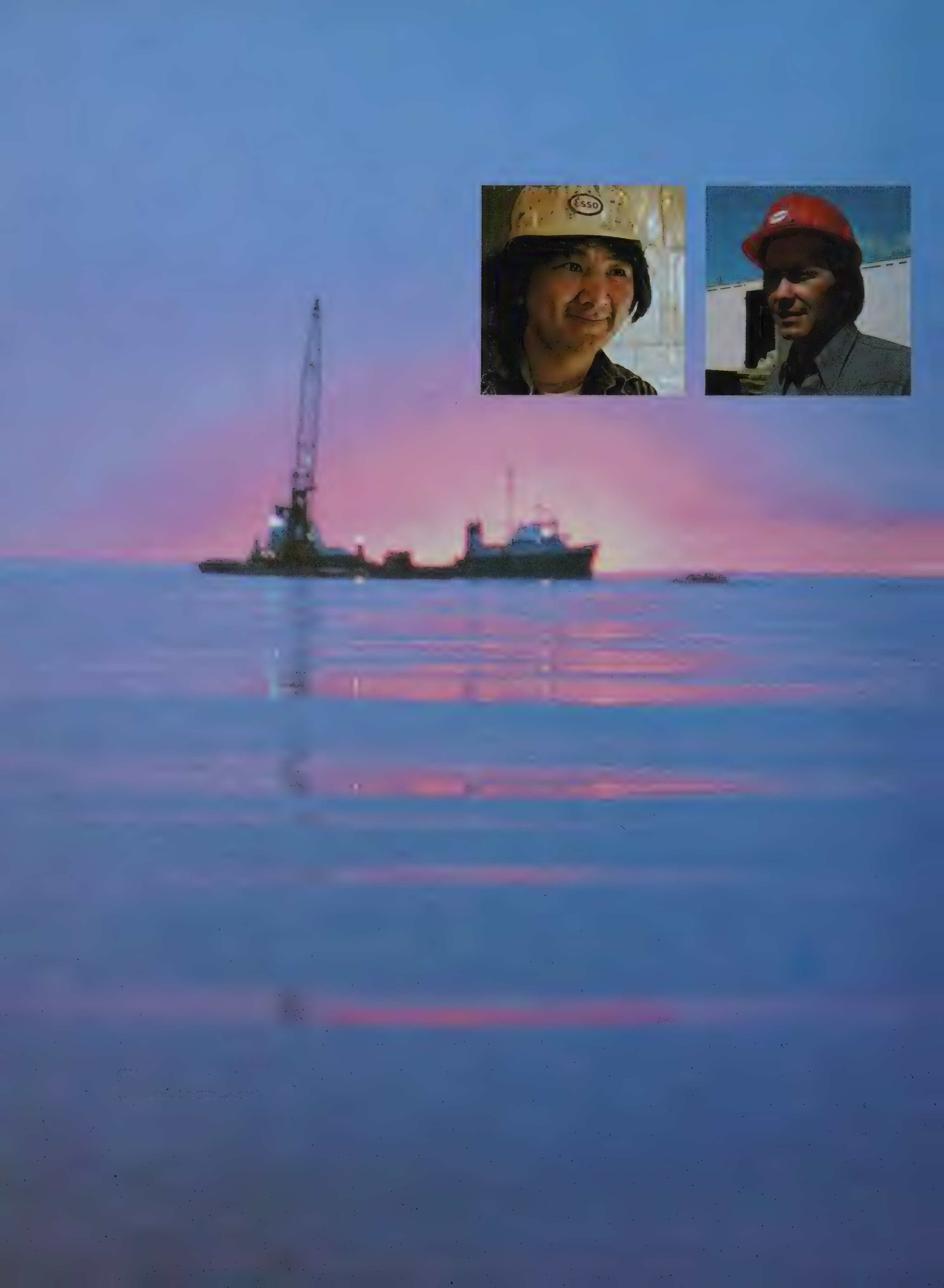
Sales volumes

	Petroleum products *(thousands of barrels per day)*				Crude oil *(thousands of barrels per day)*			Natural gas *(millions of cubic feet per day)*	Chemicals *(thousands of metric tons per year)*			
	Gasolines	Middle distillates	Other products	Total	Domestic	Export	Total		Agricultural chemicals	Fabricated products	Petro-chemicals	Total
1978	**196**	**147**	**106**	**449**	**292**	**58**	**350**	**345**	**657**	**519**	**804**	**1,980**
1977	189	142	102	433	311	65	376	363	609	446	862	1,917
1976	187	150	104	441	275	110	385	378	487	455	777	1,719
1975	175	144	99	418	336	199	535	412	561	421	678	1,660
1974	181	157	105	443	389	246	635	421	642	466	751	1,859
1973	182	160	107	449	373	313	686	480	619	440	640	1,699
1972	158	160	99	417	319	288	607	425	513	397	691	1,601
1971	159	149	98	406	337	229	566	397	410	394	651	1,455
1970	153	151	96	400	304	203	507	372	349	343	522	1,214
1969	151	143	87	381	255	162	417	350	105	382	637	1,124

(6) Gross proved reserves
The estimated quantity of crude oil, natural gas, and natural-gas liquids that analysis of geological and engineering data demonstrates with reasonable certainty to be recoverable from known oil or gas fields under existing economic and operating conditions. With the start-up of Syncrude's operations, the company's share of the permit capacity of this project has been included in the 1978 estimate. The reserves figures do not include crude oil or natural gas discovered in the Mackenzie Delta or the Arctic islands, nor the heavy, viscous oil at Cold Lake and other such deposits.

(7) Crude oil
Includes natural-gas liquids

(8) Crude purchases
The figures shown for crude purchases include changes in inventories during the year.


Esso

Inflation's effects on financial results

In financial statements, earnings are determined by matching expenses with revenues. Expenses reflect current prices for operating supplies, utilities, salaries, and the like; revenues reflect current product prices. To the extent that expenses and revenues for any particular year both include the effect of inflation for that year, there is a match between them.

However, some expenses are based on expenditures made in prior years. Depreciation, for example, reflects the prices in effect when plant and equipment were purchased or constructed, often many years ago. Where current construction costs of plant and equipment are higher, current revenue does not match depreciation expense in terms of purchasing power; consequently, earnings are overstated.

Similarly, inventories purchased or manufactured last year and sold this year are charged to earnings at last year's cost. This also results in a mismatch between cost and revenue.

Some effects of inflation would be favorable to earnings if there were an acceptable way to incorporate them in conventional earnings statements. For example, the cash flow resulting from accelerated write-offs is not recognized in the conventional way earnings are determined. Inflation also affects Imperial's creditors, since a dollar is worth progressively less the longer it is subject to inflation, even though its face value remains the same. This is not recognized in conventional earnings statements, either.

In 1977, an Ontario government committee on inflation accounting recommended one method of measuring the effects of inflation. When applied to Imperial's 1978 and 1977 earnings, this method provides the results shown in the table below. To increase investor understanding of this complex subject, the Ontario committee recommended that this information be provided as a supplement to conventional financial reporting.

	1978	1977
	millions of dollars	
Plant and equipment: Depreciation based on replacement cost, less depreciation based on original cost	**211**	196
Inventories sold during the year: Excess of the cost when sold over original cost	**73**	68
Income taxes: Taxes related to accelerated write-offs, allocated to future years	**(71)**	(64)
Financing adjustment: Inflation deemed to be borne by creditors	**(21)**	(21)
Net reduction in earnings	**192**	179

Quarterly earnings, stock prices, and trading

The stock of Imperial Oil Limited is listed on the Montreal, Toronto, and Vancouver stock exchanges and traded on the American Stock Exchange. The earnings per share are shown for each quarter of 1978 and 1977. The high and low Toronto prices and the number of shares traded on all exchanges are also shown for Class A shares.

		Prices		*Shares*
	Earnings	*High*	*Low*	*traded*
Quarter	*dollars per share*			*thousands*
1978				
First	.55	21½	18⅜	1,745
Second	.57	20⅞	18¼	3,533
Third	.60	24¾	18⅜	5,190
Fourth	.69	25¼	20⅜	3,209
Year	2.41	25¼	18¼	13,677
1977				
First	.58	23¾	20⅝	2,268
Second	.49	23⅛	19½	1,846
Third	.53	23⅝	19¼	3,006
Fourth	.65	21¾	18⅛	2,393
Year	2.25	23¾	18⅛	9,513

Dawn lights the sky and turns the Beaufort Sea milky white where a new artificial drilling island is being built. Inset are Jimmy Esagok, left, a roughneck on one of the Arctic drilling crews, and Rae Moore, a wellsite technologist working in the West Pembina area.

Directors and officers

Directors

J. A. Armstrong
*P. Des Marais II
J. W. Flanagan
J. H. Hamlin
*M. Kovitz
J. G. Livingstone
D. D. Lougheed
*W. A. Macdonald
V. Sirois
W. J. Young

Board of Directors
At Dec. 31, 1978, the board comprised ten members. Seven are employees of the company and three have their principal employment outside Imperial. A. R. Haynes and R. A. Bray resigned on Aug. 31, 1978, and V. Sirois was appointed as a director on Sept. 1, 1978. Messrs. Haynes and Bray became president and executive vice-president respectively of Esso Resources Canada Limited, Calgary, Alta., on Sept. 1, 1978.

The board meets monthly to consider items of major corporate significance. These include dividends, investment decisions, strategic plans, and performance audits in addition to all the other items on which the board is legally required to act. In 1978, attendance at board meetings averaged 81 percent.

Meetings of board committees are usually scheduled following board meetings. Attendance at all board committees was 90 percent or greater.

*Mr. Des Marais is president, Pierre Des Marais Inc., Mrs. Kovitz is chancellor emeritus of the University of Calgary, and Mr. Macdonald is a partner in the firm of McMillan, Binch

Board committees

Audit committee
Chairman
W. A. Macdonald
Vice-Chairman
P. Des Marais II
M. Kovitz
J. G. Livingstone
W. J. Young

The committee meets six times a year to review the company's financial statements, accounting practices, and ongoing business and financial controls. It also recommends the appointment of auditors and reviews their fees. The shareholders' auditor, Price Waterhouse & Co., and the company's internal auditor attend and participate in all meetings.

Contributions committee
Chairman
M. Kovitz
Vice-Chairman
P. Des Marais II
J. A. Armstrong
W. A. Macdonald

The committee meets at least twice a year to examine policies and programs related to the company's contributions to Canada's social needs. An annual budget, which includes support for education, health, welfare, community services, sports, and culture, is recommended to the board for adoption.

Board compensation committee
Chairman
P. Des Marais II
J. A. Armstrong
M. Kovitz
W. A. Macdonald

The committee meets at least three times a year to decide on the appropriate compensation for employee directors and to recommend to the board specific compensation for the chief executive officer. It also reviews overall policy on corporate compensation and the process by which the future managers of the company are identified and selected.

Officers

President and Chief Executive Officer and Chairman of the Board
J. A. Armstrong

Executive Vice-President
J. G. Livingstone

Senior Vice-Presidents:
J. W. Flanagan
J. H. Hamlin
D. D. Lougheed
V. Sirois
W. J. Young

Vice-Presidents:
R. E. Landry, *External Affairs*
A. M. Lott, *Treasurer*
D. H. MacAllan, *Corporate Affairs and General Secretary*
G. R. McLellan, *Comptroller*
A. G. Moreton, *President, Esso Chemical Canada*
G. A. Rogers, *General Counsel*
P. Stauft, *Natural Resources Coordination*
T. H. Thomson, *Marketing*
W. A. West, *Logistics*

Subsidiary companies
W. H. Adam, Ltée, Ltd.
Atlas Supply Company of Canada Limited
Building Products of Canada Limited
Canada Wide Mines Ltd.
Champlain Oil Products Limited
Citadel Centres Limited
Delta Rope & Twine Limited*
Devon Estates Limited
86129 Canada Ltd.
E S F Limited
Esso of Canada Limited
Esso Resources Canada Limited
F.A.F. Holdings Limited
The Imperial Pipe Line Company, Limited
Maple Leaf Petroleum Limited
Midwest Fibreboard Ltd.
Mongeau & Robert Cie Ltée
Nisku Products Pipe Line Company Limited
Northwest Company, Limited
J. P. Papineau Ltd.
Poli-Twine Corp. Ltd.
Renown Building Materials Limited
Les Restaurants Le Voyageur Inc.
Robbins Floor Products of Canada Ltd.
Servacar Ltd.
Stanmount Pipe Line Company Ltd.
Winnipeg Pipe Line Company Limited

*Not consolidated

Imperial Oil Limited
The company was incorporated under the Canada Joint Stock Companies Act, 1877 on Sept. 8, 1880. Its head office is at 111 St. Clair Avenue West, Toronto, Canada, M5W 1K3.
Telephone (416) 924-9111.

Annual Meeting
The annual meeting of shareholders will be held at 11:00 a.m., Monday, April 23, 1979, in the Canadian Room, Royal York Hotel, Toronto.

Transfer Offices
Shares of Imperial Oil Limited may be transferred at the following offices: head office of Imperial Oil Limited; principal offices of Montreal Trust Company at St. John's, Charlottetown, Halifax, Saint John, Montreal, Toronto, Winnipeg, Regina, Calgary, and Vancouver; and Morgan Guaranty Trust Company of New York.

Investor Information
Investors may obtain information to assist them in evaluating the company's operations and results from the Manager, Investor Relations, Imperial Oil Limited, 111 St. Clair Avenue West, Toronto, Canada, M5W 1K3. Changes of address or inquiries about shares and dividends may be sent to the Assistant Secretary, Shareholder Affairs, at the same address.

Les rapports annuels de la Compagnie Pétrolière Impériale Ltée sont publiés en français et en anglais. Si vous préférez recevoir le rapport en français, veuillez écrire à la division des Relations avec les actionnaires, Compagnie Pétrolière Impériale Ltée, 111, avenue St. Clair ouest, Toronto, Canada, M5W 1K3.

The terms company and Imperial as used in this report sometimes refer not only to Imperial Oil Limited but collectively to all of its subsidiary companies or divisions or to any one or more of them.

Design: Eskind Waddell